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HOBBSOCD

Devon Energy Corporation  
20 North Broadway  
Oklahoma City, Oklahoma 73102-8260

# Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan

For

**KSI Federal 22 # 1H**

LAT. = 32°43'36.374"N (NAD83)

LONG = 103°38.55.841"W

330' FSL & 1980' FEL,

Sec-22, T-18S R-33E

Lea County NM

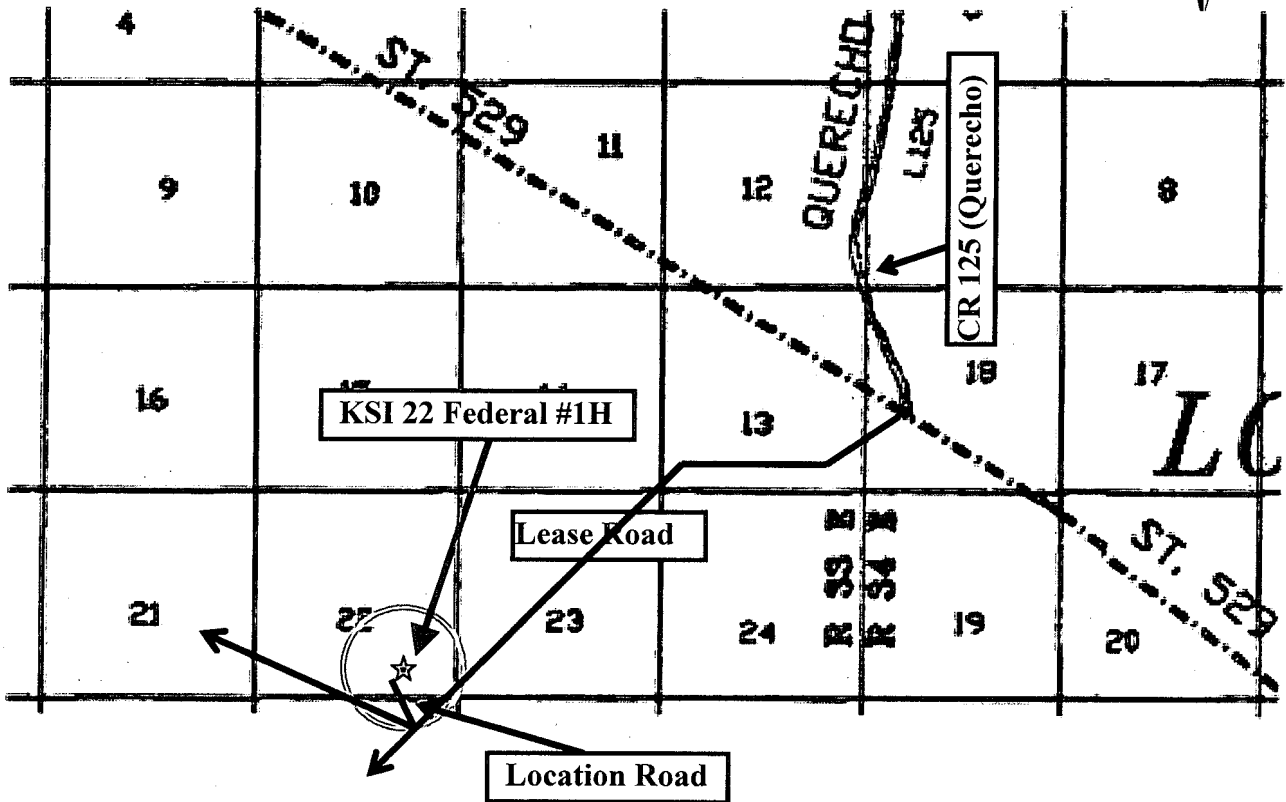
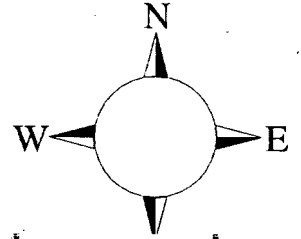
Bureau of Land Management  
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NOV 22 2010

Carlsbad Field Office  
Carlsbad, N.M.

## KSI Federal 22 # 1H

This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.



**Assumed 100 ppm ROE = 3000' (Radius of Exposure)**  
**100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.**

### Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated Southeast on lease road for 1/4 mile. Crews should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. Evacuation should continue if necessary on lease road northeast 1.8 miles, turn right and go east 1.0 mile, then turn northeast and go .45 mi to NM 529. There are no homes or buildings in or near the ROE.

**Assumed 100 ppm ROE = 3000'**  
**100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.**

## Emergency Procedures

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the “buddy system” to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - Detection of H<sub>2</sub>S, and
  - Measures for protection against the gas,
  - Equipment used for protection and emergency response.

### **Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

### **Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

<b>Common Name</b>	<b>Chemical Formula</b>	<b>Specific Gravity</b>	<b>Threshold Limit</b>	<b>Hazardous Limit</b>	<b>Lethal Concentration</b>
<b>Hydrogen Sulfide</b>	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
<b>Sulfur Dioxide</b>	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

### **Contacting Authorities**

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico’s ‘Hazardous Materials Emergency Response Plan’ (HMER)

**Devon Energy Corp. Company Call List**

<u>Artesia (575)</u>	<u>Cellular</u>	<u>Office</u>	<u>Home</u>
Foreman – Robert Bell.....	748-7448 .....	748-0178.....	746-2991
Asst. Foreman –Tommy Polly.....	748-5290.....	748-0165.....	748-2846
Don Mayberry.....	748-5235 .....	748-0164.....	746-4945
Montral Walker.....	390-5182 .....	748-0193.....	936-414-6246
Engineer – Marcos Ortiz.....	(405) 317-0666....	(405) 552-8152....	(405) 381-4350

**Agency Call List**

<u>Lea County (575)</u>	<u>Hobbs</u>	
	State Police .....	392-5588
	City Police .....	397-9265
	Sheriff's Office.....	393-2515
	Ambulance.....	911
	Fire Department.....	397-9308
	LEPC (Local Emergency Planning Committee) .....	393-2870
	NMOCD .....	393-6161
	US Bureau of Land Management .....	393-3612
<u>Eddy County (575)</u>	<u>Carlsbad</u>	
	State Police .....	885-3137
	City Police .....	885-2111
	Sheriff's Office.....	887-7551
	Ambulance.....	911
	Fire Department.....	885-2111
	LEPC (Local Emergency Planning Committee).....	887-3798
	US Bureau of Land Management .....	887-6544
	New Mexico Emergency Response Commission (Santa Fe) ...	(505)476-9600
	24 HR .....	(505) 827-9126
	National Emergency Response Center (Washington, DC) ..	(800) 424-8802

**Emergency Services**

	Boots & Coots IWC .....	1-800-256-9688 or (281) 931-8884
	Cudd Pressure Control.....	(915) 699-0139 or (915) 563-3356
	Halliburton .....	(575) 746-2757
	B. J. Services.....	(575) 746-3569
<i>Give</i>	Flight For Life - Lubbock, TX .....	(806) 743-9911
<i>GPS</i>	Aerocare - Lubbock, TX .....	(806) 747-8923
<i>position:</i>	Med Flight Air Amb - Albuquerque, NM .....	(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM .....	(575) 272-3115

Prepared in conjunction with  
Dyke Browning



## **SURFACE USE PLAN**

Devon Energy Production Company, LP

### **KSI 22 Federal 1H**

Surface Location: 330' FSL & 1980' FEL, Unit O, Sec 22 T18S R33E, Lea, NM

Bottom hole Location: 330' FNL & 1980' FEL, Unit B Sec 22 T18S R33E, Lea, NM

#### **1. Existing Roads:**

- a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Madron Surveying, Inc.
- b. All roads into the location are depicted on the surveyor plats.
- c. Directions to Location: From State Hwy 529 and CR # 125 (Querecho) and caliche lease road, go south on caliche road 0.45 miles, turn right on caliche road and go west 1.0 miles, bend left and go southwest 1.8 miles, turn right on caliche road and go northwest 0.25 miles and location in on the right (northeast) approximately 500'.
- d. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.
- e. If existing road is shared with other operators, Devon will share in its cost to maintain the road as required by the BLM.

#### **2. New or Reconstructed Access Roads:**

- a. The well site layout, Form C-102 shows approximately 293' of new access road will be constructed as follows:
- b. The maximum width of the road will be 14'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
- c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 2%.
- d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

#### **3. Location of Existing Wells:**

1 Mile Radius Plat shows all existing and proposed wells within a one-mile radius of the proposed location. See attached plat.

#### **4. Location of Existing and/or Proposed Production Facilities:**

- a. In the event the well is found productive, a tank battery will be utilized and the necessary production equipment will be installed at the well site. The tank battery would be located on the well site.
- b. If necessary, the well will be operated by means of an electric prime mover. Electric power poles will be set along side of the access road.
- c. All flowlines will adhere to API standards.
- d. If the well is productive, rehabilitation plans are as follows:
  - i. A closed loop system will be utilized.
  - ii. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

**5. Location and Types of Water Supply:**

This location will be drilled using a combination of water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads shown in the C-102. On occasion, water will be obtained from a pre-existing water well, running a pump directly to the drill rig. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If a poly pipeline is used, the size, distance, and map showing route will be provided to the BLM via sundry notice.

**6. Construction Materials:**

The caliche utilized for the drilling pad and proposed access road will be from minerals that are located onsite or will be used onsite. If minerals are not available onsite, then an established mineral pit will be used to build the location and stem road.

**7. Methods of Handling Waste Material:**

- a. Drill cuttings will be disposed of in a closed loop system.
- b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier, including broken sacks, will pick up salts remaining after completion of well.
- d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Remaining drilling fluids will be sent to a closed loop system. Water produced during completion will be put into a closed loop system. Oil and condensate produced will be put into a storage tank and sold.
- f. Disposal of fluids to be transported by the following companies:
  - i. American Production Service Inc, Odessa TX
  - ii. Gandy Corporation, Lovington NM
  - iii. I & W Inc, Loco Hill NM
  - iv. Jims Water Service of Co Inc, Denver CO

**8. Ancillary Facilities:** No campsite or other facilities will be constructed as a result of this well.

**9. Well Site Layout**

- a. The rig layout diagram shows the proposed well site layout with dimensions of the pad layout.
- b. This exhibit indicated proposed location of reserve and sump pits and living facilities.
- c. A closed loop system will be utilized.
- d. If a pit or closed loop system will be utilized, Devon will comply with the NMOCD requirements 19.15.17 and submit form C-144 CLEZ to the appropriate NMOCD District Office. An unapproved copy is provided within the APD.
- e. Topsoil Stockpiling:
  - i. Standard practice is topsoil will be pushed to the high side of location to prevent water from running across location to control erosion. If a cut out is done and there are two or three high sides, we will use those there.

**10. Plans for Surface Reclamation Include Both Final & Interim:**

- a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and used for other drilling locations, repair existing roads, repair existing locations, etc. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography. We will use a closed loop system.
- b. The location and road will be rehabilitated as recommended by the BLM.
- c. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.
- d. All disturbed areas not needed for active support of production operations will undergo interim reclamation. The portions of the cleared well site not needed for operational and safety purposes will be recontoured to a final or intermediate contour that blends with the surrounding topography as much as possible. Topsoil will be respread over areas not needed for all-weather operations.

**11. Surface Ownership**

- a. The surface is owned by the US Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.
- b. The proposed road routes and the surface location will be restored as directed by the BLM.

**12. Other Information:**

- a. The area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, sagebush, yucca and miscellaneous weeds. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within 1 miles of location.
- d. A Cultural Resources Examination will be completed by Southern New Mexico Archaeological Services, Inc. and forwarded to the BLM office in Carlsbad, New Mexico.

**13. Bond Coverage:**

Bond Coverage is Nationwide; Bond # is CO-1104

**Operators Representative:**

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Ron Hays  
Operations Engineer

Don Mayberry  
Superintendent

Devon Energy Production Company, L.P.  
20 North Broadway, Suite 1500  
Oklahoma City, OK 73102-8260

Devon Energy Production Company, L.P.  
Post Office Box 250  
Artesia, NM 88211-0250

(405) 552-8150 (office)  
(405) 464-4214 (cell)

(505) 748-0164 (office)  
(505) 748-5235 (cell)



## Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this 15th day of October, 2010.

Printed Name: Spence Laird

Signed Name: 

Position Title: Regulatory Analyst

Address: 20 North Broadway, OKC OK 73102

Telephone: (405)-228-8973

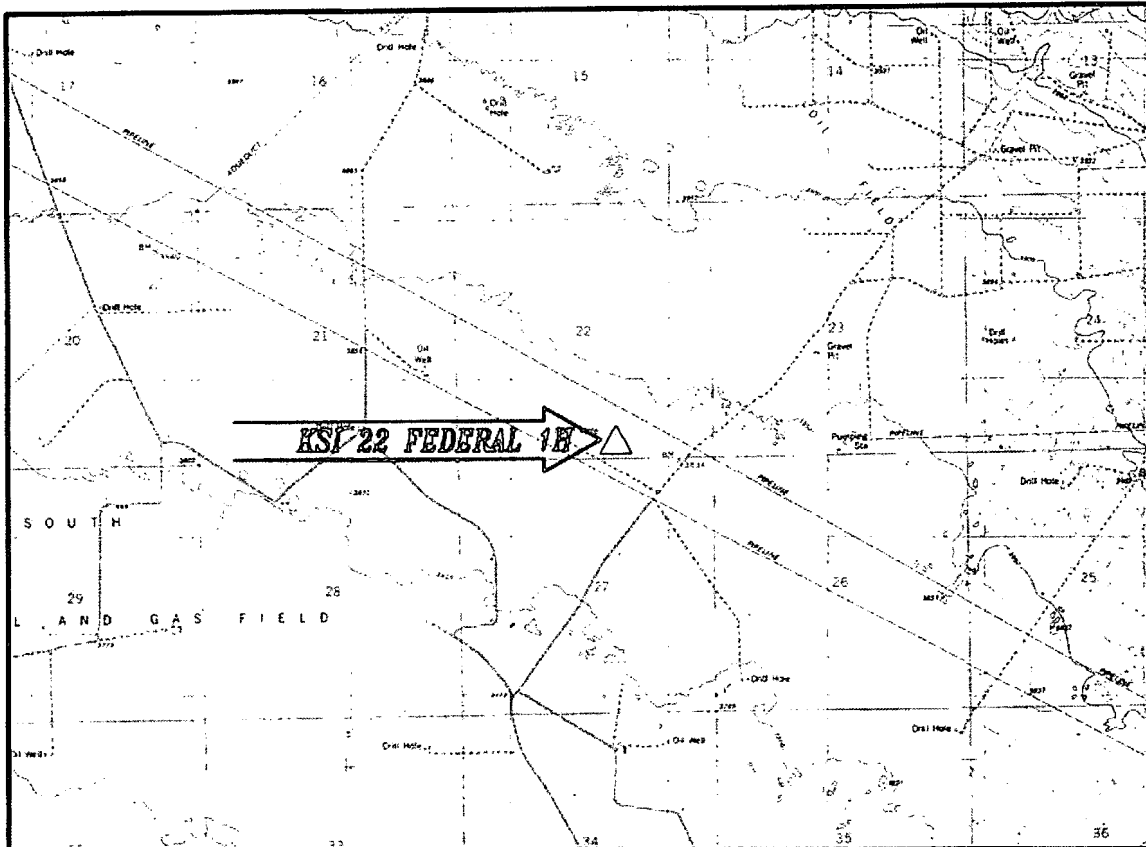
Field Representative (if not above signatory): Don Mayberry (see above)

Address (if different from above):

Telephone (if different from above):

E-mail (optional):

SECTION 22, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M.  
 LEA COUNTY, STATE OF NEW MEXICO  
**LOCATION VERIFICATION MAP**



CONTOUR INTERVAL:  
 LAGUNA GATUNA

NOT TO SCALE

**DIRECTIONS TO LOCATION**

FROM STATE HWY. 529 AND CR. #125  
 (QUERECHO) AND CALICHE LEASE ROAD, GO  
 SOUTH ON CALICHE ROAD 0.45 MILES, TURN  
 RIGHT ON CALICHE ROAD AND GO WEST 1.0  
 MILES, BEND LEFT AND GO SOUTHWEST 1.8  
 MILES, TURN RIGHT ON CALICHE ROAD AND GO  
 NORTHWEST 0.25 MILES AND LOCATION IN ON  
 THE RIGHT (NORTHEAST) APROX. 500'

SEC. 22 TWP. 18-S RGE. 33-E  
 SURVEY N.M.P.M.  
 COUNTY LEA STATE NEW MEXICO  
 DESCRIPTION 330' FSL & 1980' FEL  
 ELEVATION 3836.0'  
 OPERATOR DEVON ENERGY PRODUCTION COMPANY, LP  
 LEASE KSI

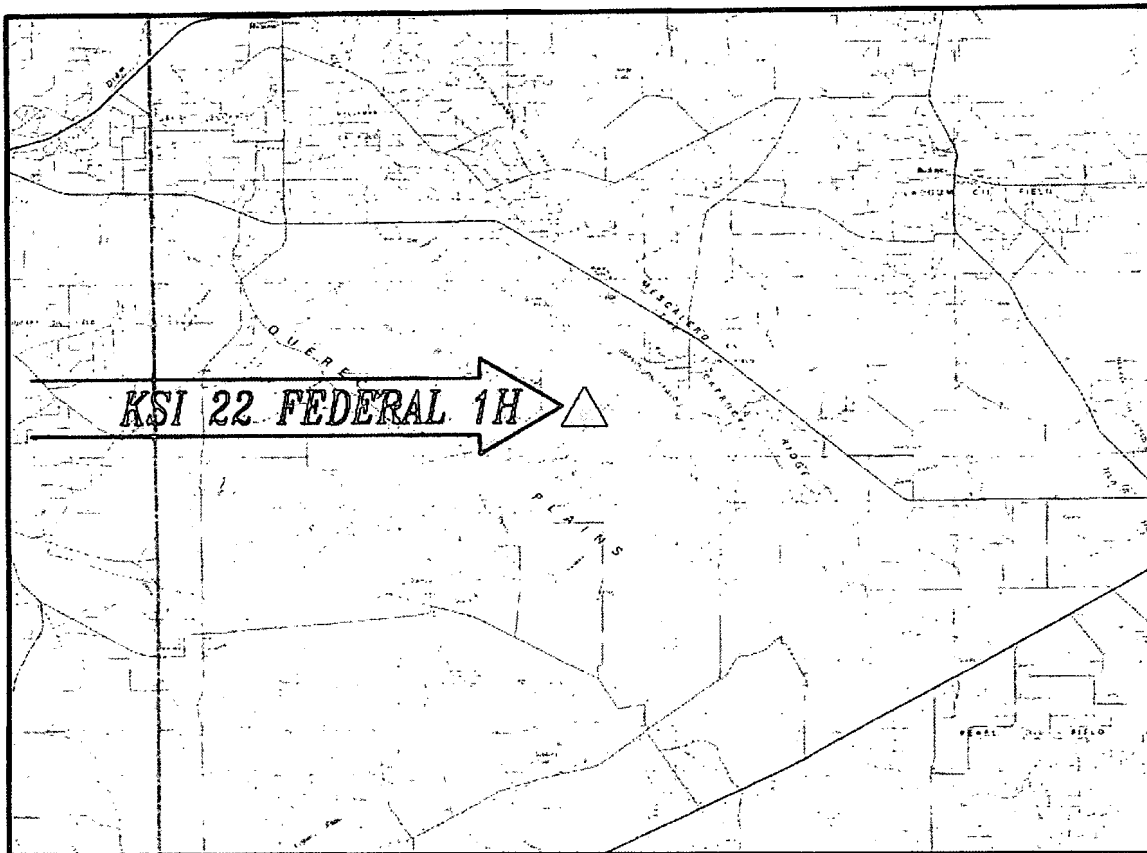
DEVON ENERGY PRODUCTION COMPANY, L.P.  
 KSI 22 FEDERAL 1H  
 LOCATED 330 FT. FROM THE SOUTH LINE  
 AND 1980 FT. FROM THE EAST LINE OF  
 SECTION 22, TOWNSHIP 18 SOUTH,  
 RANGE 33 EAST, N.M.P.M.  
 LEA COUNTY, STATE OF NEW MEXICO

JULY 2, 2010

SURVEY NO. 143

MADRON SURVEYING, INC. 501 SOUTH CANAL CARLSBAD, NEW MEXICO  
 (575) 887-5830

SECTION 22, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M.  
 LEA COUNTY, STATE OF NEW MEXICO  
**VICINITY MAP**



**DIRECTIONS TO LOCATION**

*NOT TO SCALE*

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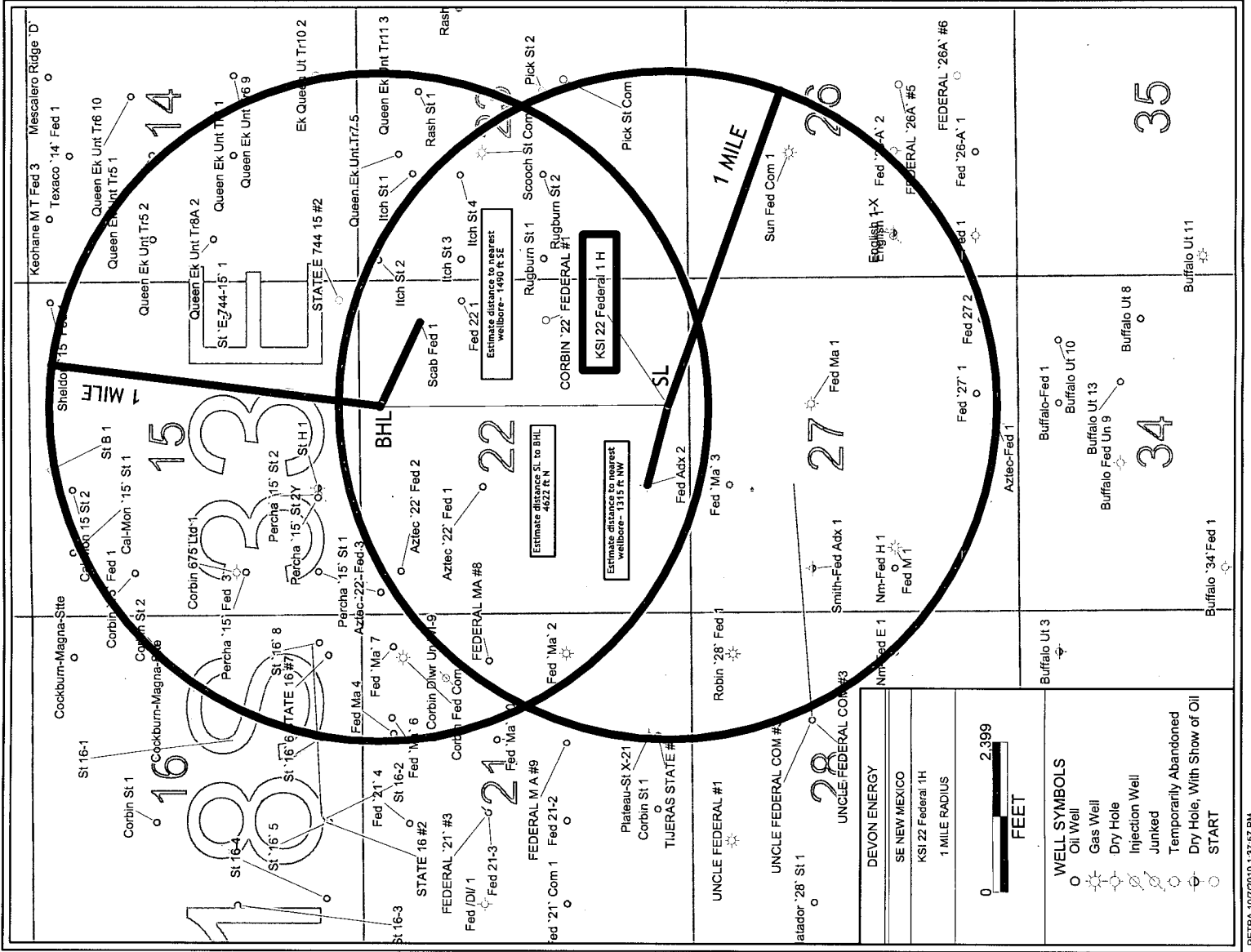
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MADRON SURVEYING, INC. 351 SOUTH CANAL CARLSBAD, NEW MEXICO  
 (575) 887-5830



DEVON ENERGY
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KSI 22 Federal 1H
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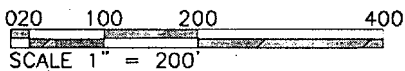
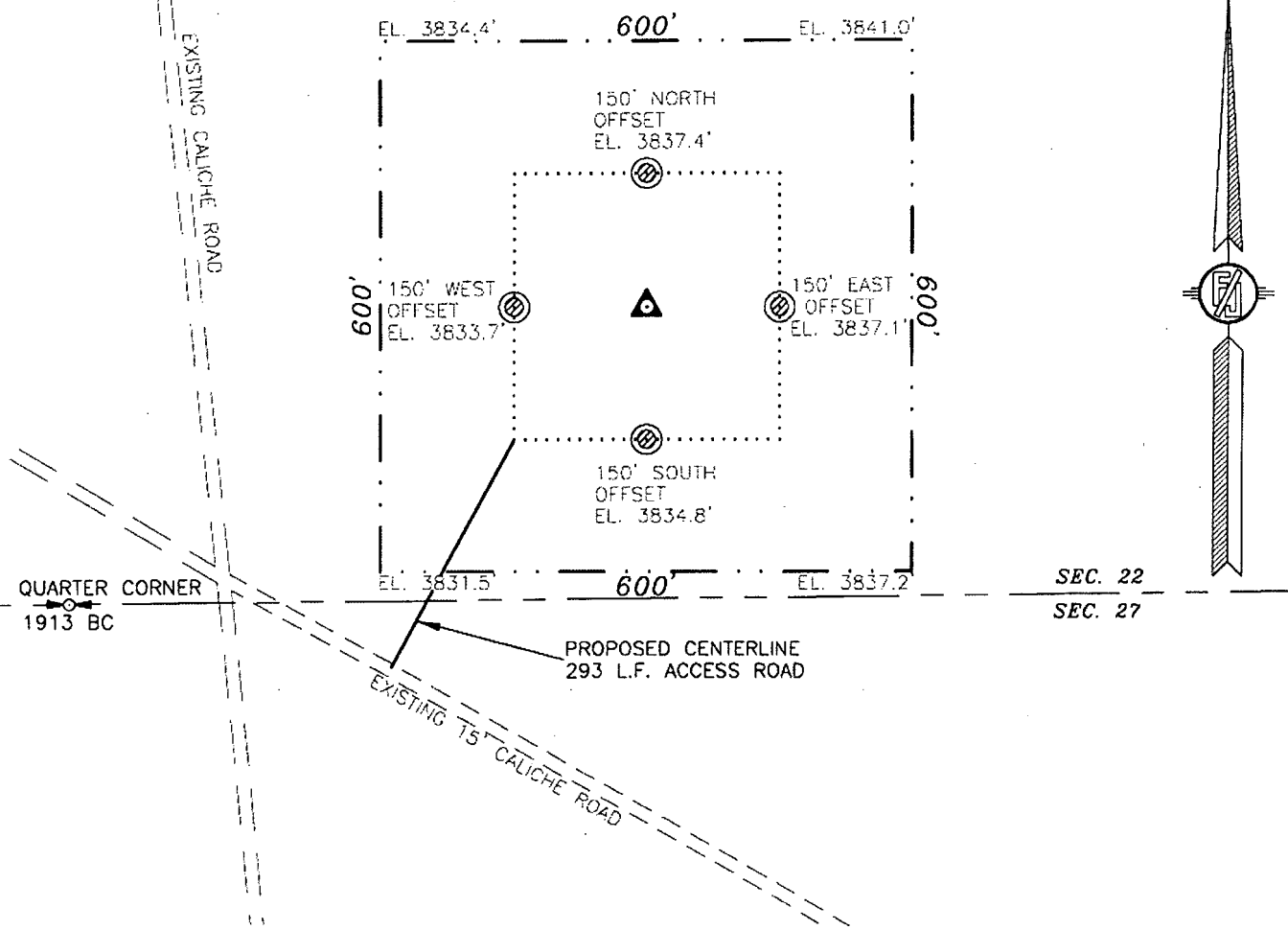
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FEET

**WELL SYMBOLS**

- Oil Well
- ⊙ Gas Well
- ⊖ Dry Hole
- ⊕ Injection Well
- ⊗ Junked
- ⊘ Temporarily Abandoned
- ⊙ Dry Hole, With Show of Oil
- ⊙ START

SECTION 22, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M.  
LEA COUNTY, STATE OF NEW MEXICO

**KSI 22 FEDERAL 1H**  
 ELEV. = 3836.0'  
 LAT. = 32°43'36.374"N (NAD83)  
 LONG. = 103°38'55.841"W  
 NMSP EAST (FT)  
 N = 628800.98  
 E = 751848.38



**DIRECTIONS TO LOCATION**

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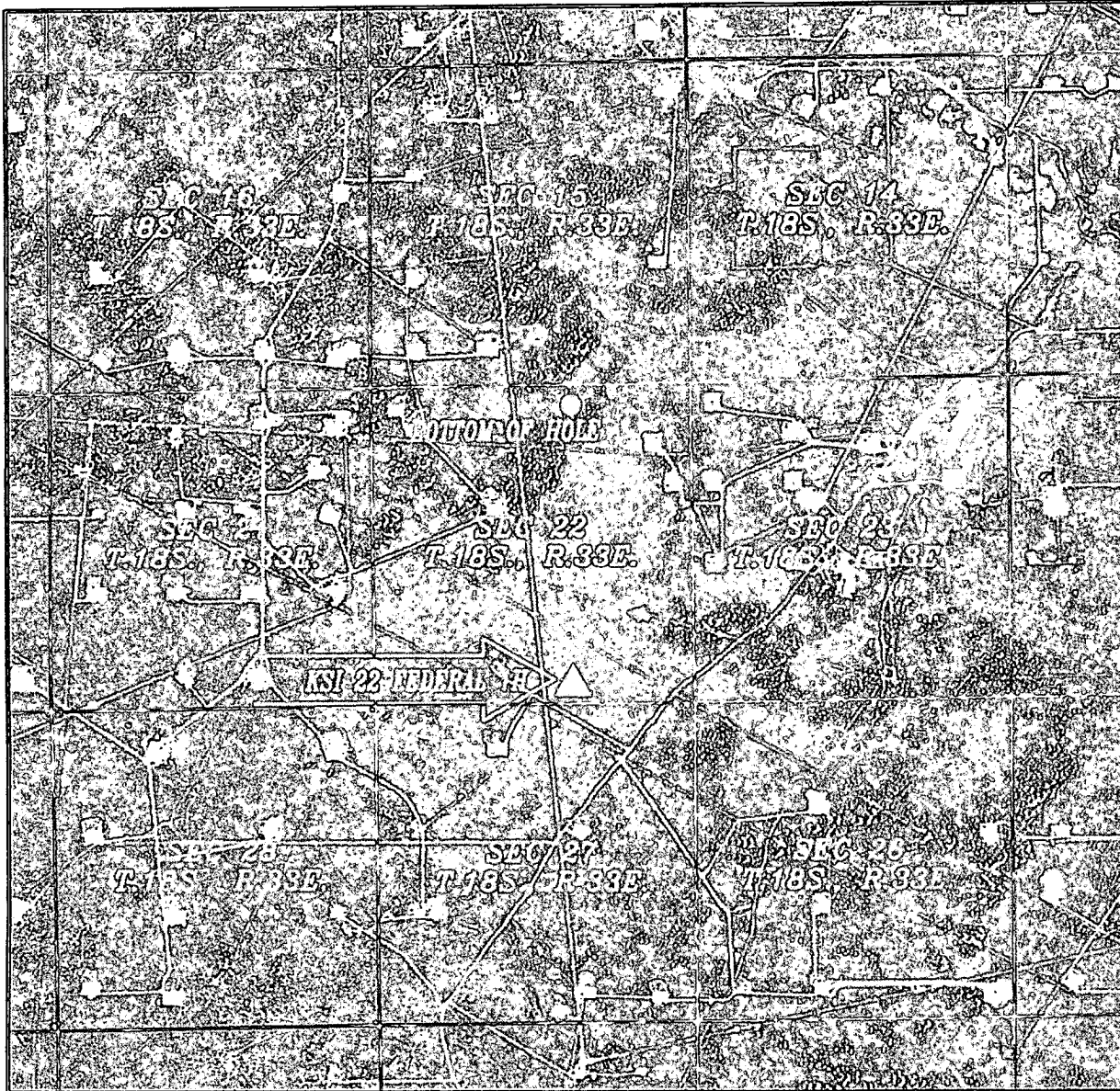
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 LEA COUNTY, STATE OF NEW MEXICO

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SURVEY NO. 143

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO  
 (575) 887-5830

SECTION 22, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M.  
 LEA COUNTY, STATE OF NEW MEXICO  
**AERIAL PHOTO**



NOT TO SCALE  
 AERIAL PHOTO:  
 GOOGLE EARTH  
 USDA - AUG, 2009

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 (575) 587-5830